National Transportation Safety Board
Aviation Accident Final Report

Location:	Rosenberg, TX	**Accident Number:**	FTW03LA061
Date & Time:	12/20/2002, 1303 CST	**Registration:**	N140TC
Aircraft:	Creekmore Team Rocket F-1	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The vertical stabilizer separated from the airplane in-flight while descending to land. Witnesses reported observing the airplane in a near vertical descent as it disappeared from their view, and that they heard the engine making a "high level of noise." After the airplane descended from view, the witnesses observed a piece(s) of the airplane "fluttering down." An examination of the wreckage by an FAA inspector, who responded to the accident site, and a representative from the manufacturer, revealed that the upper attachment fitting for the vertical fin aft spar was not installed. This is a 1 x 1 x.125 inch extruded angle that is designed to absorb the fin torque loads resulting from rudder deflections. Four AN3 fasteners attach this fitting to the aft section of the fuselage, and to the vertical fin aft spar. It was also observed that the vertical fin forward spar attach holes were not drilled, as directed by the assembly manual.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The in-flight separation of the vertical stabilizer as a result of the builder's failure to install the upper attachment fitting for the vertical fin aft spar.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: CRUISE

Findings
1. (C) MISCELLANEOUS,BOLT/NUT/FASTENER/CLAMP/SPRING - NOT INSTALLED
2. (C) MAINTENANCE,INSTALLATION - INADEQUATE - OWNER/BUILDER
3. VERTICAL STABILIZER ATTACHMENT - FATIGUE

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GROUND

Factual Information

On December 20, 2002, at 1303 central standard time, a Creekmore Team Rocket F-1 homebuilt single-engine airplane, was destroyed when it impacted terrain following the in-flight separation of the vertical stabilizer near Rosenberg, Texas. The airplane was owned and operated by the pilot. The commercial pilot, sole occupant of the airplane, was fatally injured. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The local flight originated from Sugarland Regional Airport (SGR), near Sugarland, Texas, at 1200.

A review of radar data revealed that the airplane was emitting a VFR transponder beacon code. The flight departed SGR, traversed around the Houston terminal control area (TCA), and traveled southeast bound toward Galveston Bay. The airplane circled around Texas City, then continued southwest bound along the coast towards Palacios. The airplane then flew north bound until reaching Egypt, Texas, then maneuvered east towards Rosenberg. The last radar return was approximately 29 degrees, 32 minutes north latitude, and 095 degrees, 56 minutes west longitude, and at an altitude of 3,400 feet mean sea level (msl).

A review of voice communications revealed that the pilot contacted SGR air traffic control tower (ATCT), and stated that he was at an altitude of 5,000 feet msl and 20 miles west of Sugarland inbound for landing. ATC advised the pilot of Class B airspace, and the pilot advised ATC that he was starting his descent. SGR ATCT had no further communications with the pilot.

Witnesses reported observing the airplane in a near vertical descent as it disappeared from their view, and that they heard the engine making a "high level of noise." After the airplane descended from view, the witnesses observed a piece(s) of the airplane "fluttering down."

The wreckage came to rest in a boggy, rice field. The airplane was severely fragmented from the impact. The vertical stabilizer was located approximately one-half mile southwest from the impact point. The vertical fin aft spar and rudder remained attached to the airplane. The flight control cables attaching the rudder to the pedals remained intact, but were severed by the first responders. Evidence of shear was observed on the vertical fin forward spar and attachment point. Located at the impact point was the canopy, pieces of Plexiglass, and the engine was buried approximately nine into the ground and never recovered.

The pilot and aircraft logbooks were not recovered. On the application form for his most recent Federal Aviation Administration (FAA) second-class medical certificate completed on June 28, 2001, the pilot reported a total flight time of 6,000 hours.

The Automated Surface Observing Station SGR, near Sugarland, Texas, 8 miles southwest of the accident site, at 1253 reported winds from 260 degrees at 9 knots, visibility 10 statute miles, clear skies, temperature 17 degrees Celsius, dew point 0 degree Celsius, and an altimeter setting of 30.22 inches of Mercury.

The wreckage was recovered and moved to a local hangar, where it was examined by an FAA inspector, and a representative from the manufacturer, on January 5, 2003. They reported to the NTSB Investigator-In-Charge that the upper attachment fitting for the vertical fin aft spar was not installed. This is a 1 x 1 x.125 inch extruded angle that is designed to absorb the fin torque loads resulting from rudder deflections. Four "AN3" fasteners attach this fitting to the aft section of the fuselage, and to the vertical fin aft spar. It was also observed that the vertical

fin forward spar attach holes were not drilled, as directed by the assembly manual.

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	70, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With Waivers/Limitations	**Last FAA Medical Exam:**	06/28/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	6000 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Creekmore	**Registration:**	N140TC
Model/Series:	Team Rocket F-1	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental	**Serial Number:**	030
Landing Gear Type:	Retractable - Tailwheel	**Seats:**	2
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	2000 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540
Registered Owner:	Thomas D. Creekmore	**Rated Power:**	250 hp
Operator:	Thomas D. Creekmore	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	SGR, 82 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	1253 CDT	**Direction from Accident Site:**	227°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.22 inches Hg	**Temperature/Dew Point:**	17°C / 0°C
Precipitation and Obscuration:			
Departure Point:	Houston, TX (SGR)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	1200 CST	**Type of Airspace:**	Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	29.524444, -95.775278

Administrative Information

Investigator In Charge (IIC):	Douglas D Wigington	**Report Date:**	07/29/2004
Additional Participating Persons:	Richard E Law; Flight Standards District Office; Houston, TX		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		